

Method and Device for Bearing Seal Pressure Relief

Abstract

An improvement to a sealed bearing allowing the pressure between the interior and exterior of a sealed bearing in a pressurized vessel, such as a Stirling engine, to equalize quickly. The device includes a small pressure relief hole in the bearing seal. The relief hole allows the pressure to equalize as the engine is pressurized, avoiding damage to the seal. The hole is sized so that the viscosity of the lubricant prevents leakage through the hole. Alternatively, the device may include lip seals that deform to allow the pressure to equalize.